TA-F244E/F444E

SERVICE MANUAL

AEP Model
UK Model

Photo : TA-F444E

SPECIFICATIONS

Amplifier

Continuous RMS power output (both channels driven simultaneously)

		TA-F444E	TA-F244E
DIN, 1 kHz	4 ohms*	70 W + 70 W	60 W + 60 W
	6 ohms	65 W + 65 W	55 W + 55 W
	8 ohms	55 W + 55 W	45 W + 45 W
20 Hz – 20 kHz, THD 0.03 %	4 ohms*	60 W + 60 W	50 W + 50 W
	6 ohms	55 W + 55 W	45 W + 45 W
	8 ohms	50 W + 50 W	40 W + 40 W

* Except for Scandinavian countries, Switzerland, Spain and Portugal models

Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phono	Voltage 150 mV Impedance 1 kohm
SPEAKERS	—	Model for Scandinavian countries, Switzerland, Spain and Portugal: 6 - 16 ohms (A or B) 12 - 16 ohms (A + B) Model for other countries: 4 - 16 ohms (A or B) 8 - 16 ohms (A + B)
HEADPHONES	Stereo phone jack	Accepts low and high impedance headphones

Input

Input jack		Jack type	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	MM	Phono	2.0 mV	50 kilohms	94 dB (A, 5 mV)
	MC (TA-F444E)		0.25 mV	100 ohms	76 dB (A, 0.5 mV)
TUNER, CD, AUX, TAPE 1/DAT, TAPE 2/MD		Phono	150 mV	50 kilohms	100 dB (150 mV)

INTEGRATED STEREO AMPLIFIER

SONY®

Intermodulation (IM) distortion (60 Hz : 7 kHz = 4:1)	Less than 0.008 % at 10 W output
Frequency response	PHONO: RIAA equalization curve ±0.5 dB TUNER, CD, AUX, TAPE 1/DAT, TAPE 2/MD: 7 Hz – 100 kHz $^{+0}_{-3}$ dB
Residual noise	Less than 170 µV (network A)
Damping factor	50 (8 ohms, 1 kHz)

General

System	Preamplifier: Low-noise, high-gain equalizer amplifier Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled
Power requirements	Model for U.K.: 240 V AC, 50 Hz Model for continental Europe: 220 – 230 V AC, 50/60 Hz
Power consumption	Model for Scandinavian countries, Switzerland, Spain and Portugal TA-F444E: 130 W TA-F244E: 115 W Model for other countries TA-F444E: 160 W TA-F244E: 150 W
Dimensions	Approx. 430 x 135 x 375 mm (w/h/d) (17 x 5 $^3/_8$ x 14 $^7/_8$ inches)
Mass	TA-F444E: Approx. 9.9 kg (21 lb 14 oz) TA-F244E: Approx. 8.5 kg (18 lb 12 oz)

Design and specifications are subject to change without notice.

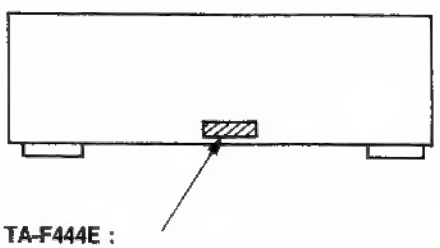
Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

TABLE OF CONTENTS

MODEL IDENTIFICATION

— BACK PANEL —



TA-F444E :
4-966-303-3□ : UK model
4-966-303-4□ : AEP1 model
4-966-303-5□ : AEP2 model
TA-F244E :
4-966-303-6□ : UK model
4-966-303-7□ : AEP1 model
4-966-303-8□ : AEP2 model

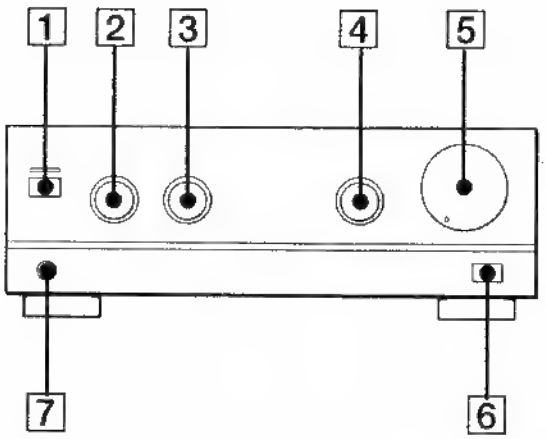
Note:
There are two type of AEP models which are depend on countries.
AEP2 : Model for Scandinavian countries,Switzerland, Spain and Portugal.
AEP1 : Model for other European countries.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.



1 POWER switch and indicator*

2 SPEAKERS selector

3 REC OUT SELECTOR

4 INPUT SELECTOR

5 VOLUME control

6 CARTRIDGE button (TA-F444E only)

7 HEADPHONES jack (stereo phone jack)

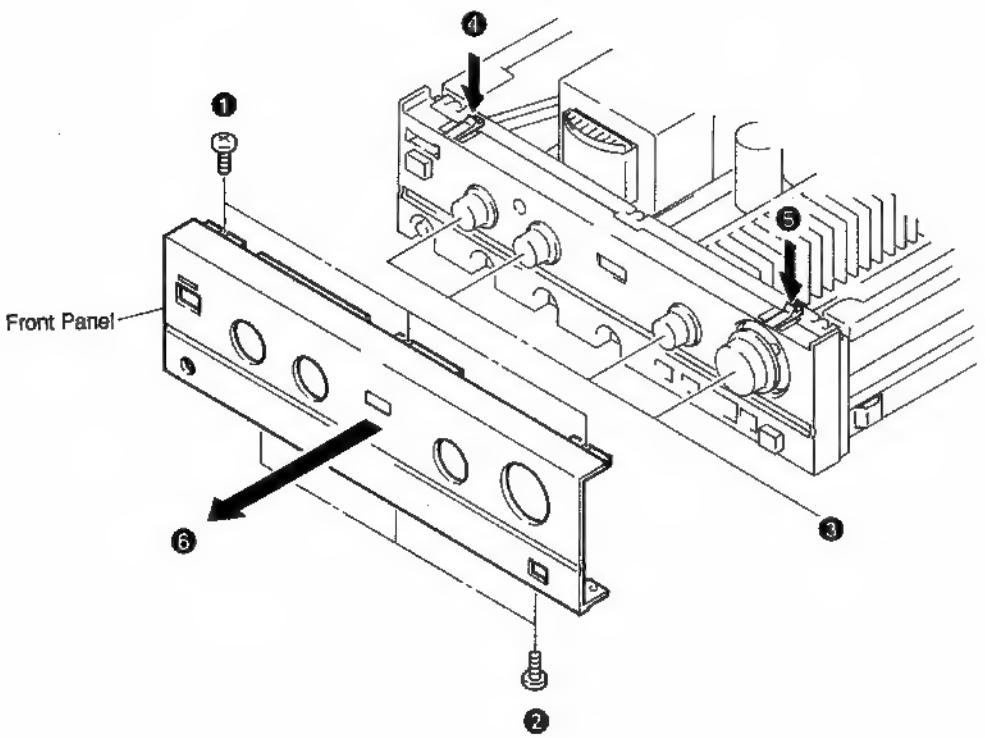
* After the power is turned on, the POWER indicator lights in red and immediately changed to green. If it remains in red, turn off the power, check that speakers and other devices are properly connected, and turn on the power again.

SECTION 2
DISASSEMBLY

2-1. DISASSEMBLING FOR BOARD CHECK (HP/LED BOARD)

Procedure :

1) Remove screws ❶, ❷.
2) Pull four knobs out ❸.
3) Press the claws ❹, ❺.
4) Remove front panel ❻.



SECTION 3
ELECTRICAL ADJUSTMENT

DC Bias Adjustment

Perform this adjustment when replacing the transistors of the power amplifier.

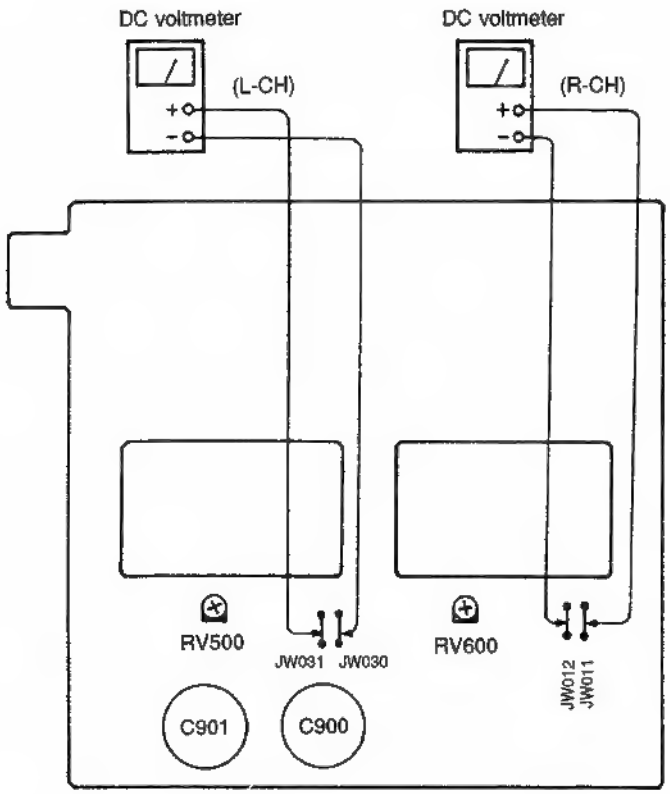
Setup :
- No signal (no load)
- Minimum Volume

1. Connect the DC volt meter to the JW030 and JW031 or JW011 and JW012.
2. After the power is turned on, complete within 15 seconds to adjust RV500 (L-CH) and RV600 (R-CH) so that the bias voltage bocomes 9mV ± 1mV.

Note : This adjustment must be completed within 15 seconds.

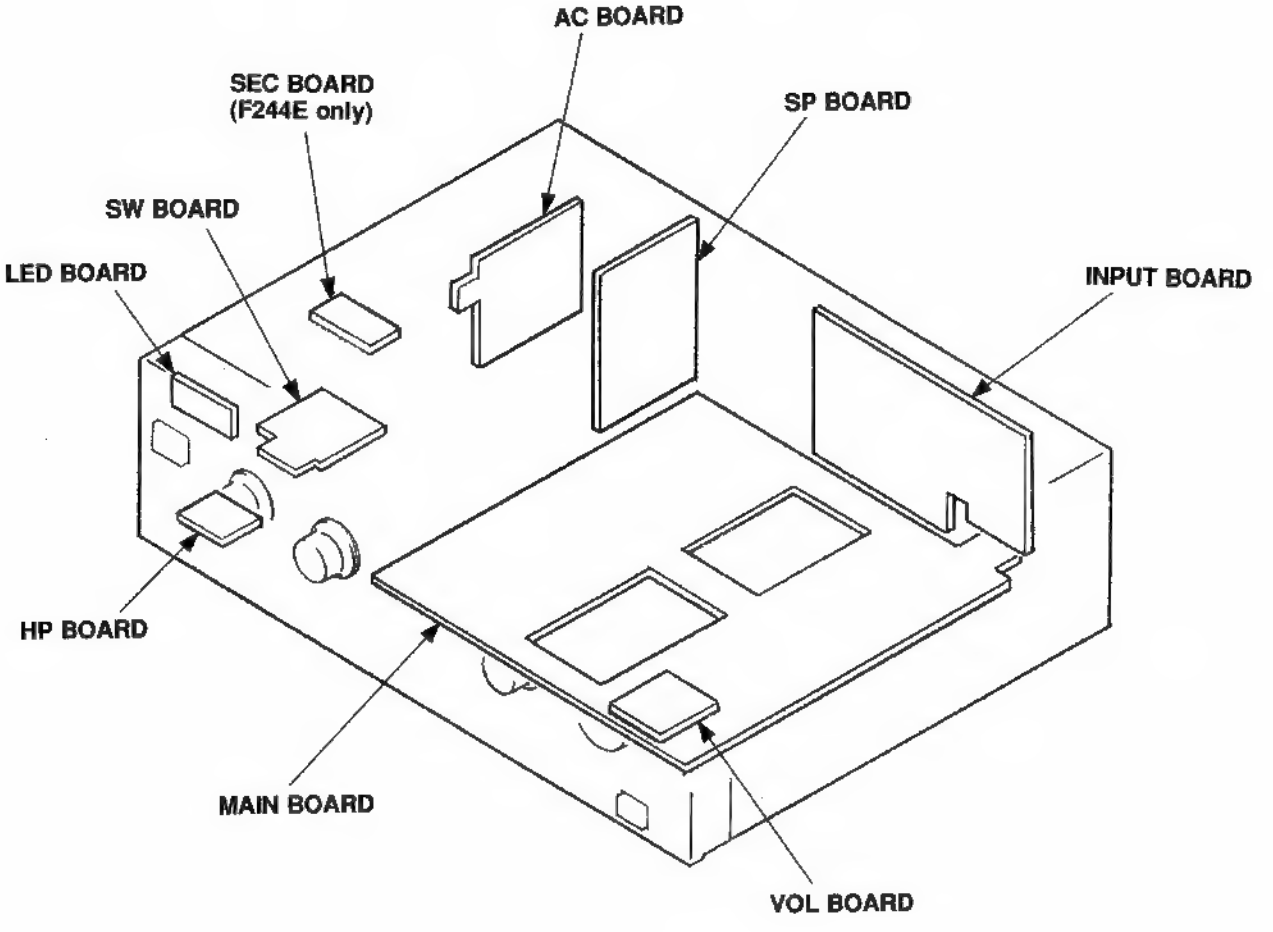
Adjustment Location :

[MAIN BOARD] (Component Side)

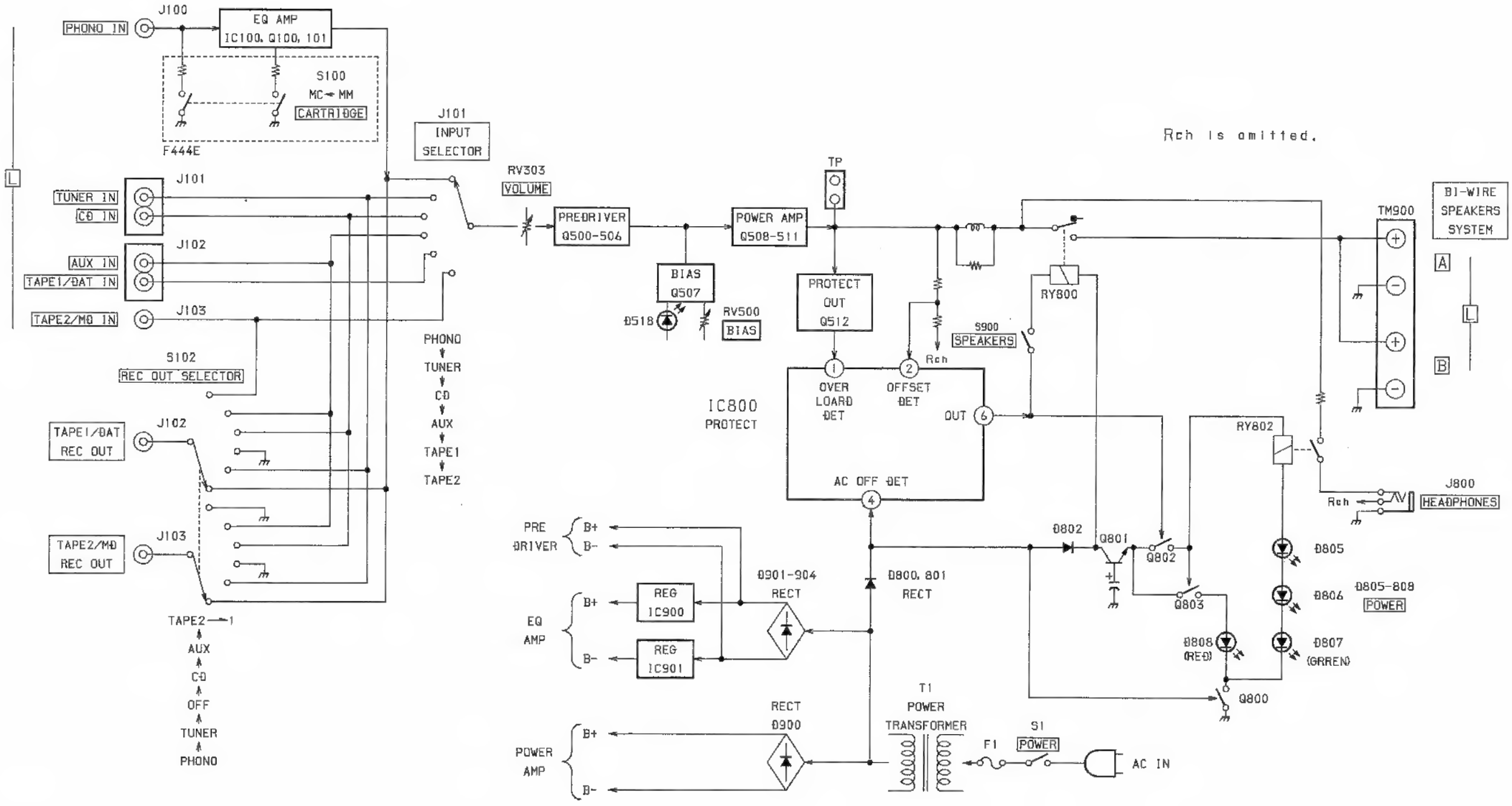


SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



4-2. BLOCK DIAGRAM



• Semiconductor Lead Layouts

NJM4560D-D
M5218AP

TA7815S

TA7915S

μPC1237HA

DTA124ES

2SA949-OY
2SA1015-GR
2SC945-P
2SC1815-GR
2SC2229-OY
2SC2545

2SA988-PAFAEA

2SA1383
2SC3514
2SD2012

2SC2259-FG

2SD774-34

2SJ200-Y
2SK1529-Y

2SK246-GR

HZS6B1L
HZS7C2L

RBV-602-01

SEL1510C-C

SEL2213C-C

SEL2510C-D

1N4148M
1S1585
10E2

4-3. PRINTED WIRING BOARDS

• See page 6 for Circuit Boards Location.

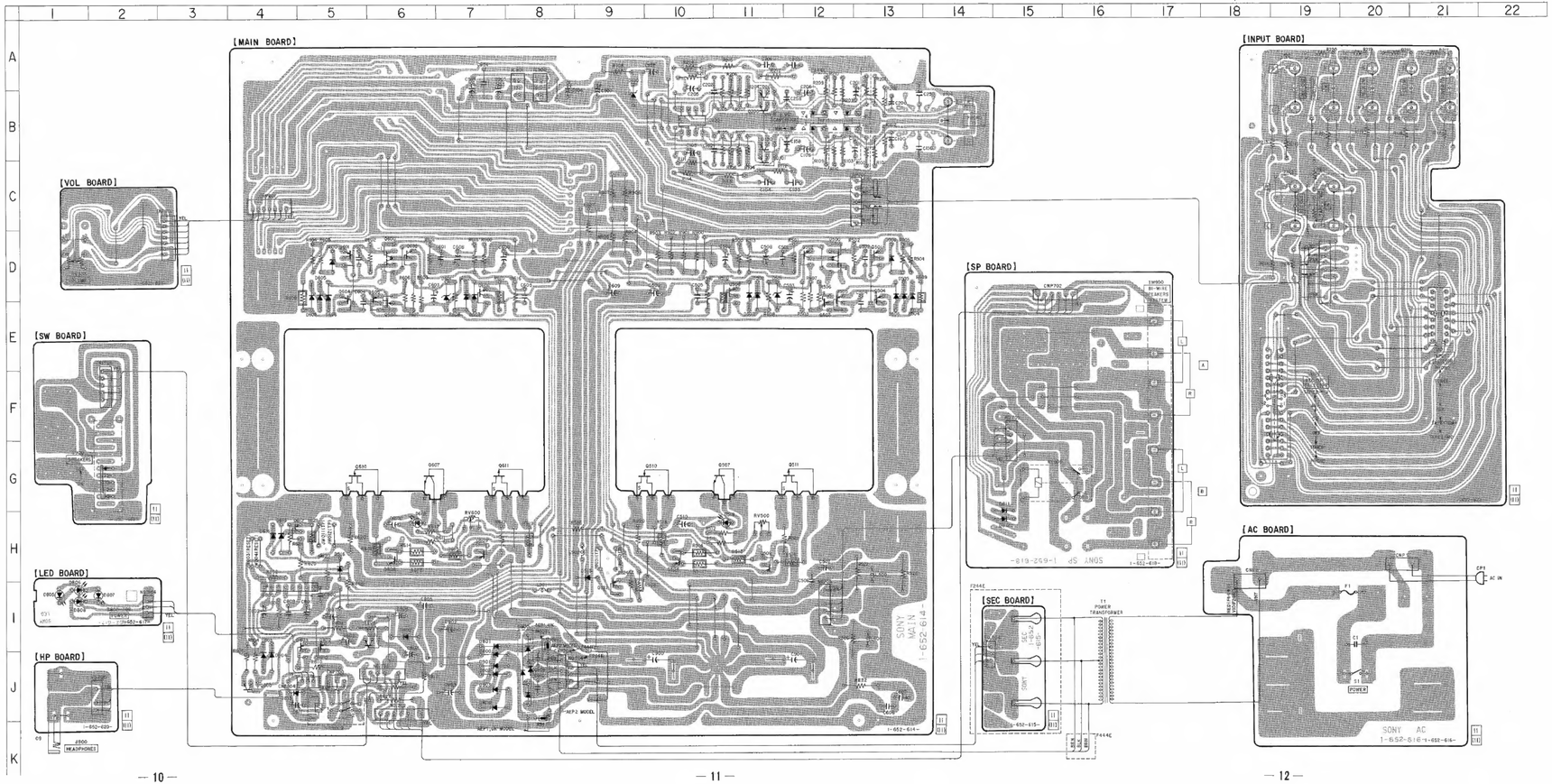
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D100	A-9	IC100	B-10
D500	D-13	IC800	I-4
D501	D-11	IC900	A-8
D502	D-11	IC901	A-8
D503	E-11		
D504	E-13	Q100	B-11
D505	D-13	Q101	B-11
D506	E-13	Q200	B-11
D515	H-9	Q201	A-11
D516	H-5	Q500	D-12
D518	H-11	Q501	D-13
D600	D-5	Q502	D-12
D601	D-7	Q503	E-12
D602	D-7	Q504	D-13
D603	E-7	Q505	D-12
D604	E-5	Q506	D-11
D605	D-5	Q507	G-11
D606	E-5	Q508	H-10
D615	H-4	Q509	H-11
D616	H-4	Q510	G-10
D618	H-6	Q511	G-12
D800	J-7	Q512	I-9
D801	I-7	Q600	D-6
D802	I-6	Q601	D-5
D803	I-4	Q602	D-6
D804	J-4	Q603	E-6
D805	I-1	Q604	D-5
D806	I-1	Q605	D-6
D807	I-2	Q606	D-7
D808	I-1	Q607	G-6
D811	G-15	Q608	H-6
D812	H-15	Q609	H-7
D815	J-4	Q610	G-5
D900	I-8	Q611	G-7
D901	J-7	Q612	H-4
D902	J-7	Q800	J-4
D903	J-7	Q801	I-6
D904	J-7	Q802	I-5
		Q803	I-5

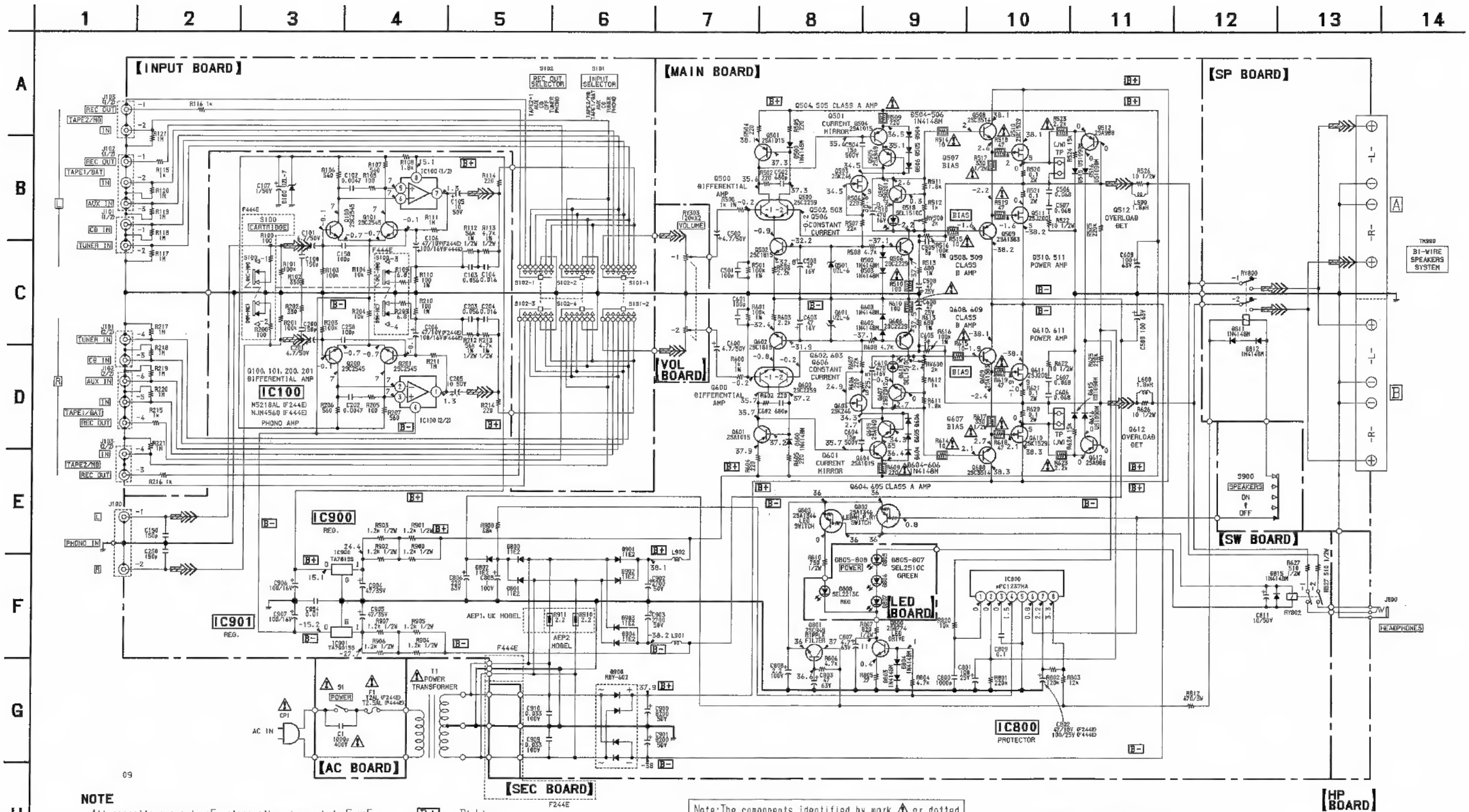
Note:

• o—— : parts extracted from the component side.

• ▒▒▒ : Pattern from the side which enable seeing.



4-4. SCHEMATIC DIAGRAM



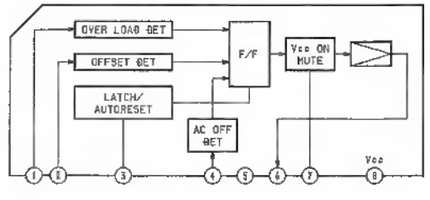
NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.
- : panel designation.
- : B+ Line.
- : B- Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PHONO

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:
There are two type of AEP models which are depend on countries.
AEP2: Model for Scandinavian countries, Switzerland, Spain and Portugal.
AEP1: Model for other European countries.

IC800 μPC1237HA



SECTION 5
EXPLODED VIEWS

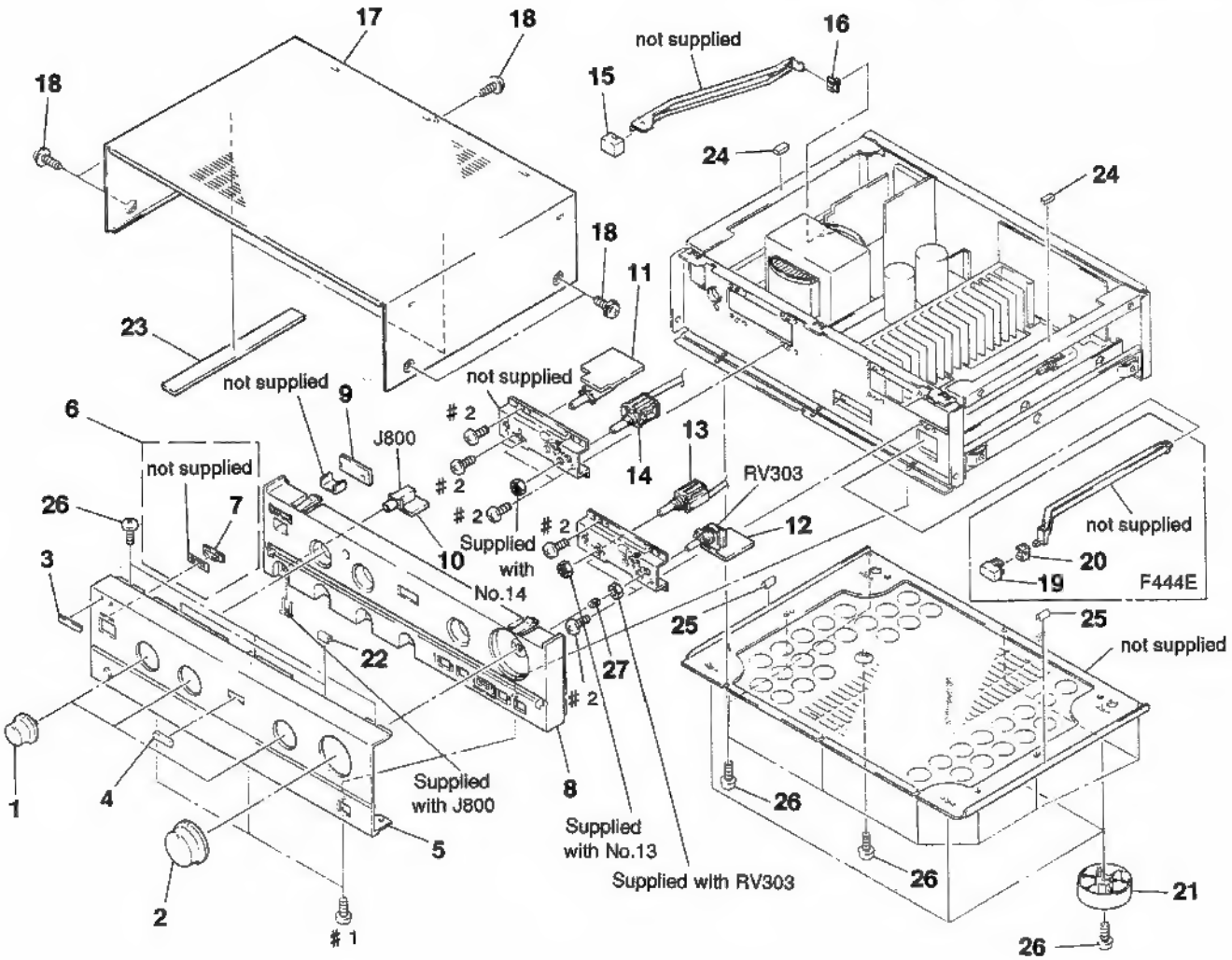
NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

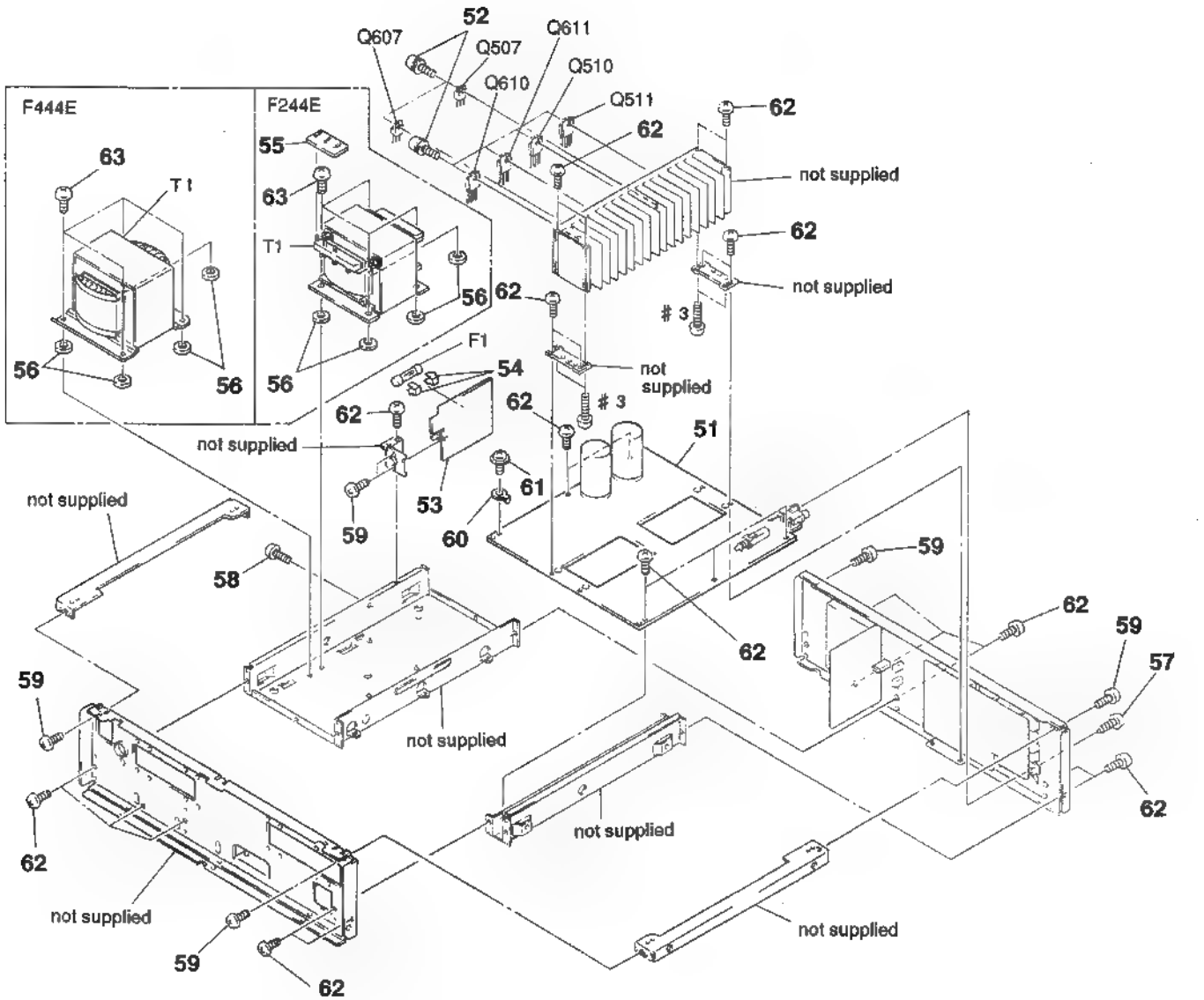
Note:
There are two type of AEP models which are depend on countries.
AEP2: Model for Scandinavian countries, Swetzerland, Spain and Portugal.
AEP1: Model for other European countries.

5-1. CASE AND FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-966-305-01	KNOB (DIA. 32)	
2	X-4944-844-1	KNOB (VOL) ASSY	
3	4-942-568-01	EMBLEM (NO.5), SONY	
4	4-965-651-01	EMBLEM (MOS)	
5	4-966-304-11	PANEL, FRONT (F444E)	
5	4-966-304-21	PANEL, FRONT (F244E)	
6	X-4942-660-1	INDICATOR ASSY	
7	4-945-175-01	INDICATOR (PSW)	
* 8	4-957-474-01	BASE, PANEL	
* 9	1-652-617-11	LED BOARD	
* 10	1-652-620-11	HP BOARD	
* 11	1-652-619-11	SW BOARD	
* 12	1-652-621-11	VOL BOARD	
13	1-572-796-11	SWITCH, ROTARY SLIDE (INPUT SELECTOR)	
14	1-572-795-11	SWITCH, ROTARY SLIDE (REC OUT SELECTOR)	
15	4-949-281-01	BUTTON	
16	4-875-466-11	JOINT (F2), KNOB	
* 17	4-924-920-71	CASE	
18	3-704-366-01	SCREW (CASE) (M3X8)	
19	4-947-011-01	BUTTON (F) (F444E)	
20	4-864-307-00	RING (F444E)	
21	X-4941-517-1	FOOT (58175) ASSY	
22	9-911-830-XX	SHEET, HB	
* 23	4-961-832-01	SHEET, DAMPER	
24	9-911-840-XX	CUSHION, RUBBER	
25	4-952-154-01	CUSHION (PE)	
26	4-967-961-01	SCREW (3X8) (SPECIAL)	
27	3-703-466-00	SPRING (6600)	

5-2. CHASSIS SECTION

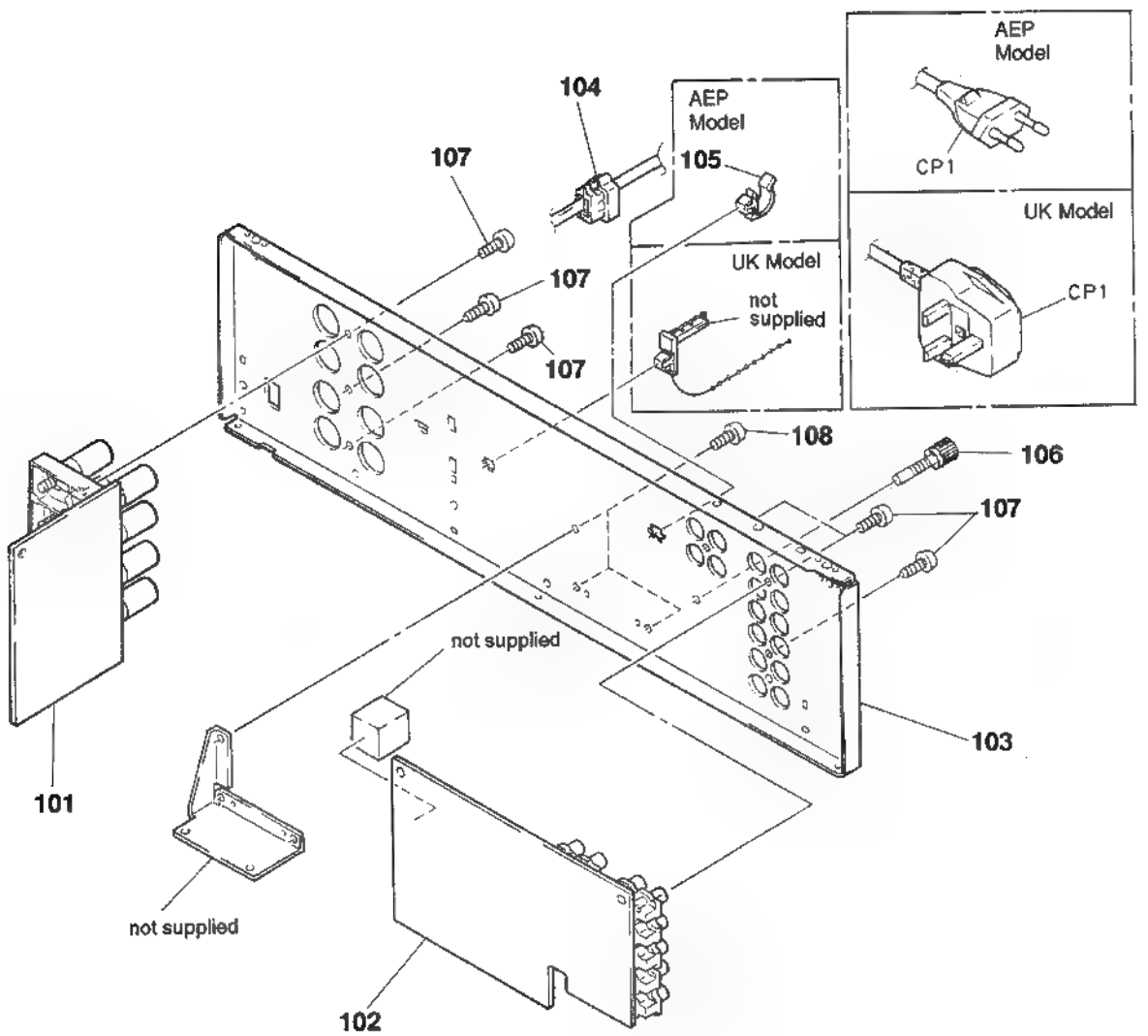


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
* 51	A-4369-950-A	MAIN BOARD, COMPLETE (F444E:AEP1,UK)	
* 51	A-4371-171-A	MAIN BOARD, COMPLETE (F444E:AEP2)	
* 51	A-4371-174-A	MAIN BOARD, COMPLETE (F244E:AEP1,UK)	
* 51	A-4371-182-A	MAIN BOARD, COMPLETE (F244E:AEP2)	
52	3-905-609-11	SCREW (TRANSISTOR)	
* 53	1-652-616-11	AC BOARD	
54	1-533-233-11	HOLDER, FUSE	
* 55	1-652-615-11	SEC BOARD (F244E)	
* 56	4-949-933-01	WASHER (K.F)	
57	3-704-515-41	SCREW (BV/RING)	
58	4-911-049-11	SCREW (3X8)	
59	4-967-959-01	SCREW (3X6)	
* 60	4-870-539-00	PLATE, GROUND	
61	3-363-099-81	SCREW (CASE3 TP2)	
62	4-967-961-01	SCREW (3X8)(SPECIAL)	

Ref.No.	Part No.	Description	Remark
63	4-967-960-01	SCREW (4X8)	
⚠F1	1-532-203-00	FUSE (T2AL)(F244E)	
⚠F1	1-532-286-00	FUSE (T2.5AL)(F444E)	
Q507	8-729-209-15	TRANSISTOR 2SD2012	
Q510	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q511	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q607	8-729-209-15	TRANSISTOR 2SD2012	
Q610	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q611	8-729-232-46	TRANSISTOR 2SJ200-Y	
⚠T1	1-426-892-11	TRANSFORMER, POWER (F444E:UK)	
⚠T1	1-426-893-11	TRANSFORMER, POWER (F444E:AEP)	
⚠T1	1-426-894-11	TRANSFORMER, POWER (F244E:UK)	
⚠T1	1-426-895-11	TRANSFORMER, POWER (F244E:AEP)	

5-3. BACK PANEL SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 101	1-652-618-11	SP BOARD	
* 102	1-652-622-11	INPUT BOARD	
* 103	4-966-303-31	PANEL, BACK (F444E:UK)	
* 103	4-966-303-41	PANEL, BACK (F444E:AEP1)	
* 103	4-966-303-51	PANEL, BACK (F444E:AEP2)	
* 103	4-966-303-61	PANEL, BACK (F244E:UK)	
* 103	4-966-303-71	PANEL, BACK (F244E:AEP1)	
* 103	4-966-303-81	PANEL, BACK (F244E:AEP2)	
* 104	3-703-244-00	BUSHING (2104), CORD	
* 105	4-949-235-01	HOOK (AEP)	
106	4-947-010-01	SCREW, FEEDER FIXED	
107	3-704-515-41	SCREW (BV/RING)	
108	4-967-961-01	SCREW (3X8)(SPECIAL)	
⚠CP1	1-575-651-11	CORD, POWER (AEP)	
⚠CP1	1-696-585-21	CORD, POWER (UK)	

AC HP INPUT

LED MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, ■: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB...,
  uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

Note:
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AEP2: Model for Scandinavian countries, Swetzerland, Spain and Portugal.
AEP1: Model for other European countries.

Ref. No.	Part No.	Description			Remark
*	1-652-616-11	AC BOARD			
		********			
	1-533-233-11	HOLDER, FUSE			
		< CAPACITOR >			
⚠C1	1-161-741-00	CERAMIC 0.001uF	10%	400V	
		< CONNECTOR >			
* CNP1	1-568-226-11	PIN, CONNECTOR 2P			
CNP2	1-564-321-00	PIN, CONNECTOR 2P			
		< FUSE >			
⚠F1	1-532-203-00	FUSE (T2AL) (F244E)			
⚠F1	1-532-286-00	FUSE (T2.5AL) (F444E)			
		< SWITCH >			
⚠S1	1-554-920-11	SWITCH, PUSH (AC POWER) (1 KEY)			
**********					
*	1-652-620-11	HP BOARD			
		********			
		< JACK >			
J800	1-507-796-71	JACK (HEADPHONES)			
**********					
*	1-652-622-11	INPUT BOARD			
		**********			
		< JACK >			
* J101	1-573-142-11	JACK, PIN 4P (CD, TUNER)			
J102	1-568-978-11	JACK 6P (TAPE1/DAT)			
* J103	1-573-142-21	JACK, PIN 4P (TAPE2/MD)			
		< RESISTOR >			
R115	1-247-713-11	CARBON	1K	5%	1/4W F
R116	1-247-713-11	CARBON	1K	5%	1/4W F
R117	1-246-545-00	CARBON	1.0M	5%	1/4W
R118	1-246-545-00	CARBON	1.0M	5%	1/4W
R119	1-246-545-00	CARBON	1.0M	5%	1/4W
R120	1-246-545-00	CARBON	1.0M	5%	1/4W
R121	1-246-545-00	CARBON	1.0M	5%	1/4W
R215	1-247-713-11	CARBON	1K	5%	1/4W F
R216	1-247-713-11	CARBON	1K	5%	1/4W F
R217	1-246-545-00	CARBON	1.0M	5%	1/4W
R218	1-246-545-00	CARBON	1.0M	5%	1/4W
R219	1-246-545-00	CARBON	1.0M	5%	1/4W
R220	1-246-545-00	CARBON	1.0M	5%	1/4W
R221	1-246-545-00	CARBON	1.0M	5%	1/4W
		< SWITCH >			
S101	1-571-669-11	SWITCH, SLIDE (INPUT SELECTOR)			
S102	1-571-115-11	SWITCH, SLIDE (REC OUT SELECTOR)			
**********					
*	1-652-617-11	LED BOARD			
		*********			
		< DIODE >			
D805	8-719-303-02	DIODE SEL2510C-D (POWER)			
D806	8-719-303-02	DIODE SEL2510C-D (POWER)			
D807	8-719-303-02	DIODE SEL2510C-D (POWER)			
D808	8-719-302-23	DIODE SEL2213C-C (POWER)			
**********					
*	A-4369-950-A	MAIN BOARD, COMPLETE (F444E:AEP1, UK)			
		**********			
*	A-4371-171-A	MAIN BOARD, COMPLETE (F444E:AEP2)			
		**********			
*	A-4371-174-A	MAIN BOARD, COMPLETE (F244E:AEP1, UK)			
		**********			
*	A-4371-181-A	MAIN BOARD, COMPLETE (F244E:AEP2)			
		**********			
		< CAPACITOR >			
C100	1-164-075-11	CERAMIC	150PF	10%	50V
C101	1-126-163-11	ELECT	4.7uF	20%	50V
C102	1-161-377-00	CERAMIC	0.0047uF	30%	50V
C103	1-130-492-11	MYLAR	0.056uF	5%	50V
C104	1-137-471-11	FILM	0.016uF	5%	50V
C105	1-126-059-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description				Remark
C106	1-124-122-11	ELECT	100uF	20%	50V	(F444E)
C106	1-126-022-11	ELECT	47uF	20%	10V	(F244E)
C107	1-126-044-11	ELECT	1uF	20%	50V	
C150	1-162-284-31	CERAMIC	150PF	10%	50V	
C158	1-164-073-11	CERAMIC	100PF	10%	50V	
C200	1-164-075-11	CERAMIC	150PF	10%	50V	
C201	1-126-163-11	ELECT	4.7uF	20%	50V	
C202	1-161-377-00	CERAMIC	0.0047uF	30%	50V	
C203	1-130-492-11	MYLAR	0.056uF	5%	50V	
C204	1-137-471-11	FILM	0.016uF	5%	50V	
C205	1-126-059-11	ELECT	10uF	20%	50V	
C206	1-124-122-11	ELECT	100uF	20%	50V	(F444E)
C206	1-126-022-11	ELECT	47uF	20%	10V	(F244E)
C250	1-162-284-31	CERAMIC	150PF	10%	50V	
C258	1-164-073-11	CERAMIC	100PF	10%	50V	
C500	1-126-163-11	ELECT	4.7uF	20%	50V	
C501	1-164-073-11	CERAMIC	100PF	10%	50V	
C502	1-164-083-11	CERAMIC	680PF	10%	50V	
C503	1-124-477-11	ELECT	47uF	20%	25V	
C504	1-102-316-00	CERAMIC	15PF	5%	500V	
C505	1-164-039-11	CERAMIC	3PF	0.25PF	50V	
C506	1-136-163-00	FILM	0.068uF	5%	50V	
C507	1-136-163-00	FILM	0.068uF	5%	50V	
C508	1-124-910-11	ELECT	47uF	20%	50V	
C509	1-124-572-11	ELECT	100uF	20%	63V	(F244E)
C509	1-126-365-51	ELECT	100uF	20%	63V	(F444E)
C510	1-126-012-11	ELECT	470uF	20%	16V	(F244E)
C510	1-126-103-11	ELECT	470uF	20%	16V	(F444E)
C600	1-126-163-11	ELECT	4.7uF	20%	50V	
C601	1-164-073-11	CERAMIC	100PF	10%	50V	
C602	1-164-083-11	CERAMIC	680PF	10%	50V	
C603	1-124-477-11	ELECT	47uF	20%	25V	
C604	1-102-316-00	CERAMIC	15PF	5%	500V	
C605	1-164-039-11	CERAMIC	3PF	0.25PF	50V	
C606	1-136-163-00	FILM	0.068uF	5%	50V	
C607	1-136-163-00	FILM	0.068uF	5%	50V	
C608	1-124-910-11	ELECT	47uF	20%	50V	
C609	1-124-572-11	ELECT	100uF	20%	63V	(F244E)
C609	1-126-365-51	ELECT	100uF	20%	63V	(F444E)
C610	1-126-012-11	ELECT	470uF	20%	16V	(F244E)
C610	1-126-103-11	ELECT	470uF	20%	16V	(F444E)
C800	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C801	1-124-478-11	ELECT	100uF	20%	25V	
C802	1-124-126-00	ELECT	47uF	20%	10V	(F244E)
C802	1-124-478-11	ELECT	100uF	20%	25V	(F444E)
C803	1-124-918-11	ELECT	47uF	20%	63V	
C805	1-124-791-11	ELECT	1.0uF	20%	100V	
C806	1-124-919-11	ELECT	220uF	20%	63V	
C807	1-124-927-11	ELECT	4.7uF	20%	100V	
C808	1-124-925-11	ELECT	2.2uF	20%	100V	

Ref. No.	Part No.	Description				Remark
C809	1-136-165-00	FILM	0.1uF	5%	50V	
C811	1-124-907-11	ELECT	10uF	20%	50V	
C900	1-109-869-11	ELECT	8200uF	20%	50V	(F444E)
C900	1-109-870-11	ELECT	8200uF	20%	50V	(F244E)
C901	1-109-869-11	ELECT	8200uF	20%	50V	(F444E)
C901	1-109-870-11	ELECT	8200uF	20%	50V	(F244E)
C902	1-109-871-11	ELECT	2700uF	20%	50V	
C903	1-109-871-11	ELECT	2700uF	20%	50V	
C904	1-126-051-11	ELECT	47uF	20%	35V	
C905	1-126-051-11	ELECT	47uF	20%	35V	
C906	1-126-023-11	ELECT	100uF	20%	16V	
C907	1-126-023-11	ELECT	100uF	20%	16V	
C909	1-106-379-12	MYLAR	0.033uF	5%	200V	
C910	1-106-379-12	MYLAR	0.033uF	5%	200V	
C954	1-162-306-11	CERAMIC	0.01uF	20%	16V	

< CONNECTOR >

CNP700	1-564-506-11	PLUG, CONNECTOR 3P	
CNP701	1-564-510-11	PLUG, CONNECTOR 7P	
* CNP704	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	(F444E)
* CNP801	1-564-341-11	PIN, CONNECTOR 7P	
* CNP804	1-564-337-00	PIN, CONNECTOR 3P	

< DIODE >

D100	8-719-933-50	DIODE	HZS7C2L
D500	8-719-987-63	DIODE	1N4148M
D501	8-719-933-36	DIODE	HZS6B1L
D502	8-719-987-63	DIODE	1N4148M
D503	8-719-987-63	DIODE	1N4148M
D504	8-719-987-63	DIODE	1N4148M
D505	8-719-987-63	DIODE	1N4148M
D506	8-719-987-63	DIODE	1N4148M
D515	8-719-815-85	DIODE	1S1585
D516	8-719-815-85	DIODE	1S1585
D518	8-719-310-60	DIODE	SEL1510C-C
D600	8-719-987-63	DIODE	1N4148M
D601	8-719-933-36	DIODE	HZS6B1L
D602	8-719-987-63	DIODE	1N4148M
D603	8-719-987-63	DIODE	1N4148M
D604	8-719-987-63	DIODE	1N4148M
D605	8-719-987-63	DIODE	1N4148M
D606	8-719-987-63	DIODE	1N4148M
D615	8-719-815-85	DIODE	1S1585
D616	8-719-815-85	DIODE	1S1585
D618	8-719-310-60	DIODE	SEL1510C-C
D800	8-719-200-02	DIODE	10E2
D801	8-719-200-02	DIODE	10E2
D802	8-719-200-02	DIODE	10E2
D803	8-719-987-63	DIODE	1N4148M
D804	8-719-987-63	DIODE	1N4148M

MAIN

Ref. No.	Part No.	Description	Remark
D815	8-719-987-63	DIODE 1N4148M	
D900	8-719-302-38	DIODE RBV-602-01	
D901	8-719-200-02	DIODE 10E2	
D902	8-719-200-02	DIODE 10E2	
D903	8-719-200-02	DIODE 10E2	
D904	8-719-200-02	DIODE 10E2	
		< IC >	
IC100	8-759-745-61	IC NJM4560D-D (F444E)	
IC100	8-759-634-51	IC M5218AP (F244E)	
IC800	8-759-111-68	IC uPC1237HA	
IC900	8-759-231-59	IC TA7815S	
IC901	8-759-245-87	IC TA7915S	
		< JACK >	
* J100	1-573-140-11	JACK, PIN 2P (PHONO)	
		< COIL >	
L500	1-420-872-00	COIL, AIR CORE 1.8uH	
L600	1-420-872-00	COIL, AIR CORE 1.8uH	
* L901	1-428-203-11	COIL, AIR-CORE	
* L902	1-428-203-11	COIL, AIR-CORE	
		< TRANSISTOR >	
Q100	8-729-354-52	TRANSISTOR 2SC2545	
Q101	8-729-354-52	TRANSISTOR 2SC2545	
Q200	8-729-354-52	TRANSISTOR 2SC2545	
Q201	8-729-354-52	TRANSISTOR 2SC2545	
Q500	8-729-620-17	TRANSISTOR 2SC2259-FG	
Q501	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q502	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q503	8-729-224-62	TRANSISTOR 2SK246-GR	
Q504	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q505	8-729-021-74	TRANSISTOR 2SA949-OY	
Q506	8-729-021-73	TRANSISTOR 2SC2229-OY	
Q507	8-729-209-15	TRANSISTOR 2SD2012	
Q508	8-729-104-18	TRANSISTOR 2SC3514	
Q509	8-729-104-91	TRANSISTOR 2SA1383	
Q510	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q511	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q512	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q600	8-729-620-17	TRANSISTOR 2SC2259-FG	
Q601	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q602	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q603	8-729-224-62	TRANSISTOR 2SK246-GR	
Q604	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q605	8-729-021-74	TRANSISTOR 2SA949-OY	
Q606	8-729-021-73	TRANSISTOR 2SC2229-OY	
Q607	8-729-209-15	TRANSISTOR 2SD2012	
Q608	8-729-104-18	TRANSISTOR 2SC3514	
Q609	8-729-104-91	TRANSISTOR 2SA1383	
Q610	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q611	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q612	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q800	8-729-140-96	TRANSISTOR 2SD774-34	
Q801	8-729-194-57	TRANSISTOR 2SC945-P	
Q802	8-729-900-63	TRANSISTOR DTA124ES	
Q803	8-729-900-63	TRANSISTOR DTA124ES	
		< RESISTOR >	
R100	1-247-700-11	CARBON 100 5% 1/4W F	(F444E)
R101	1-249-469-11	CARBON 100K 5% 1/4W	
R102	1-247-706-11	CARBON 330 5% 1/4W F	
R103	1-249-469-11	CARBON 100K 5% 1/4W	
R104	1-247-725-11	CARBON 10K 5% 1/4W	
R105	1-247-700-11	CARBON 100 5% 1/4W F	
R106	1-247-710-11	CARBON 560 5% 1/4W	
R107	1-247-710-11	CARBON 560 5% 1/4W	
R108	1-247-716-11	CARBON 1.8K 5% 1/4W	
R109	1-249-457-11	CARBON 6.8 5% 1/4W	(F444E)
R110	1-249-899-11	CARBON 100 1% 1/4W	
R111	1-246-545-00	CARBON 1.0M 5% 1/4W	
R112	1-249-844-11	CARBON 56K 1% 1/2W	
R113	1-249-818-11	CARBON 4.7K 1% 1/2W	
R114	1-247-704-11	CARBON 220 5% 1/4W	
R200	1-247-700-11	CARBON 100 5% 1/4W F	(F444E)
R201	1-249-469-11	CARBON 100K 5% 1/4W	
R202	1-247-706-11	CARBON 330 5% 1/4W F	
R203	1-249-469-11	CARBON 100K 5% 1/4W	
R204	1-247-725-11	CARBON 10K 5% 1/4W	
R205	1-247-700-11	CARBON 100 5% 1/4W F	
R206	1-247-710-11	CARBON 560 5% 1/4W	
R207	1-247-710-11	CARBON 560 5% 1/4W	
R209	1-249-457-11	CARBON 6.8 5% 1/4W	(F444E)
R210	1-249-899-11	CARBON 100 1% 1/4W	
R211	1-246-545-00	CARBON 1.0M 5% 1/4W	
R212	1-249-844-11	CARBON 56K 1% 1/2W	
R213	1-249-818-11	CARBON 4.7K 1% 1/2W	
R214	1-247-704-11	CARBON 220 5% 1/4W	
R500	1-249-923-11	CARBON 1K 1% 1/4W	
R501	1-249-971-11	CARBON 100K 1% 1/4W	
R502	1-247-704-11	CARBON 220 5% 1/4W	
R503	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R504	1-247-704-11	CARBON 220 5% 1/4W	
R505	1-247-704-11	CARBON 220 5% 1/4W	
R506	1-247-704-11	CARBON 220 5% 1/4W	
R507	1-249-462-11	CARBON 22K 5% 1/4W	
R508	1-247-721-11	CARBON 4.7K 5% 1/4W	
⚠R509	1-247-704-11	CARBON 220 5% 1/4W F	
⚠R510	1-247-700-11	CARBON 100 5% 1/4W F	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN **SEC** **SP**

Ref. No.	Part No.	Description				Remark
R511	1-247-716-11	CARBON	1.8K	5%	1/4W	
R512	1-247-713-11	CARBON	1K	5%	1/4W	F
R513	1-249-919-11	CARBON	680	1%	1/4W	
⚠R514	1-247-688-11	CARBON	10	5%	1/4W	F
⚠R515	1-247-688-11	CARBON	10	5%	1/4W	F
R516	1-249-971-11	CARBON	100K	1%	1/4W	
⚠R517	1-247-745-11	CARBON	330	5%	1/2W	F
⚠R518	1-247-696-11	CARBON	47	5%	1/4W	F
⚠R519	1-247-696-11	CARBON	47	5%	1/4W	F
R520	1-217-611-00	METAL PLATE	0.1			
R521	1-217-611-00	METAL PLATE	0.1			
R522	1-247-727-11	CARBON	10	5%	1/2W	
⚠R523	1-247-717-11	CARBON	2.2K	5%	1/4W	F
R524	1-249-460-11	CARBON	15K	5%	1/4W	
R525	1-247-887-00	CARBON	220K	5%	1/4W	
R526	1-247-727-11	CARBON	10	5%	1/2W	
R527	1-247-748-11	CARBON	510	5%	1/2W	
R600	1-249-923-11	CARBON	1K	1%	1/4W	
R601	1-249-971-11	CARBON	100K	1%	1/4W	
R602	1-247-704-11	CARBON	220	5%	1/4W	
R603	1-247-717-11	CARBON	2.2K	5%	1/4W	F
R604	1-247-704-11	CARBON	220	5%	1/4W	
R605	1-247-704-11	CARBON	220	5%	1/4W	
R606	1-247-704-11	CARBON	220	5%	1/4W	
R607	1-249-462-11	CARBON	22K	5%	1/4W	
R608	1-247-721-11	CARBON	4.7K	5%	1/4W	
⚠R609	1-247-704-11	CARBON	220	5%	1/4W	F
⚠R610	1-247-700-11	CARBON	100	5%	1/4W	F
R611	1-247-716-11	CARBON	1.8K	5%	1/4W	
R612	1-247-713-11	CARBON	1K	5%	1/4W	F
R613	1-249-919-11	CARBON	680	1%	1/4W	
⚠R614	1-247-688-11	CARBON	10	5%	1/4W	F
⚠R615	1-247-688-11	CARBON	10	5%	1/4W	F
R616	1-249-971-11	CARBON	100K	1%	1/4W	
⚠R617	1-247-745-11	CARBON	330	5%	1/2W	F
⚠R618	1-247-696-11	CARBON	47	5%	1/4W	F
⚠R619	1-247-696-11	CARBON	47	5%	1/4W	F
R620	1-217-611-00	METAL PLATE	0.1			
R621	1-217-611-00	METAL PLATE	0.1			
R622	1-247-727-11	CARBON	10	5%	1/2W	
⚠R623	1-247-717-11	CARBON	2.2K	5%	1/4W	F
R624	1-249-460-11	CARBON	15K	5%	1/4W	
R625	1-247-887-00	CARBON	220K	5%	1/4W	
R626	1-247-727-11	CARBON	10	5%	1/2W	
R627	1-247-748-11	CARBON	510	5%	1/2W	
R801	1-247-887-00	CARBON	220K	5%	1/4W	
R802	1-247-881-00	CARBON	120K	5%	1/4W	
R803	1-249-459-11	CARBON	12K	5%	1/4W	
R804	1-247-721-11	CARBON	4.7K	5%	1/4W	
R805	1-247-693-11	CARBON	27	5%	1/4W	
R806	1-247-721-11	CARBON	4.7K	5%	1/4W	
R807	1-247-751-11	CARBON	820	5%	1/2W	
R808	1-249-467-11	CARBON	68K	5%	1/4W	
R810	1-247-237-00	CARBON	750	5%	1/2W	
R812	1-215-915-11	METAL OXIDE	470	5%	3W	F
R820	1-247-725-11	CARBON	10K	5%	1/4W	
R900	1-247-753-11	CARBON	1.2K	5%	1/2W	
R901	1-247-753-11	CARBON	1.2K	5%	1/2W	
R902	1-247-753-11	CARBON	1.2K	5%	1/2W	
R903	1-247-753-11	CARBON	1.2K	5%	1/2W	
R904	1-247-753-11	CARBON	1.2K	5%	1/2W	
R905	1-247-753-11	CARBON	1.2K	5%	1/2W	
R906	1-247-753-11	CARBON	1.2K	5%	1/2W	
R907	1-247-753-11	CARBON	1.2K	5%	1/2W	
R910	1-806-882-11	THERMISTOR, POSITIVE	2.2 (AEP2)			
R911	1-806-882-11	THERMISTOR, POSITIVE	2.2 (AEP2)			
		< VARIABLE RESISTOR >				
RV500	1-237-457-21	RES, ADJ, CARBON 2K				
RV600	1-237-457-21	RES, ADJ, CARBON 2K				
		< RELAY >				
RY802	1-515-787-21	RELAY				
		< SWITCH >				
S100	1-571-111-11	SWITCH, PUSH (1 KEY) (F444E)				
**********						
*	1-652-615-11	SEC BOARD (F244E)				
		**********				
**********						
*	1-652-618-11	SP BOARD				
		********				
		< CONNECTOR >				
* CNP702	1-564-509-11	PLUG, CONNECTOR 6P				
		< DIODE >				
D811	8-719-987-63	DIODE	1N4148M			
D812	8-719-987-63	DIODE	1N4148M			
		< RELAY >				
RY800	1-515-501-00	RELAY				
		< TERMINAL >				
TM900	1-537-227-11	TERMINAL BOARD (SPEAKERS) (AEP2)				
TM900	1-537-228-11	TERMINAL BOARD (SPEAKERS) (AEP1, UK)				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SW **VOL**

Ref. No.	Part No.	Description	Remark
*	1-652-619-11	SW BOARD	
		********	
		< CONNECTOR >	
* CNP706	1-564-508-11	PLUG, CONNECTOR 5P	
		< SWITCH >	
S900	1-762-006-11	SWITCH, ROTARY SLIDE (SPEAKERS)	
*	1-652-621-11	VOL BOARD	
		*********	
		< CONNECTOR >	
* CNP802	1-564-341-11	PIN, CONNECTOR 7P	
		< VARIABLE RESISTOR >	
RV303	1-241-557-11	RES, VAR, CARBON 120K/120K (VOLUME)	
		MISCELLANEOUS	
		*************	
13	1-572-796-11	SWITCH, ROTARY SLIDE (INPUT SELECTOR)	
14	1-572-795-11	SWITCH, ROTARY SLIDE (REC OUT SELECTOR)	
⚠CP1	1-575-651-11	CORD, POWER (AEP)	
⚠CP1	1-696-585-21	CORD, POWER (UK)	
⚠F1	1-532-203-00	FUSE (T2AL) (F244E)	
⚠F1	1-532-286-00	FUSE (T2.5AL) (F444E)	
Q507	8-729-209-15	TRANSISTOR 2SD2012	
Q510	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q511	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q607	8-729-209-15	TRANSISTOR 2SD2012	
Q610	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q611	8-729-232-46	TRANSISTOR 2SJ200-Y	
⚠T1	1-426-892-11	TRANSFORMER, POWER (F444E:UK)	
⚠T1	1-426-893-11	TRANSFORMER, POWER (F444E:AEP)	
⚠T1	1-426-894-11	TRANSFORMER, POWER (F244E:UK)	
⚠T1	1-426-895-11	TRANSFORMER, POWER (F244E:AEP)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		********************************	
	3-759-010-11	MANUAL, INSTRUCTION (ENGLISH, SWEDISH, PORTUGUESE, DANISH, FINNISH)	
*	4-931-985-01	CUSHION	
*	4-966-658-01	INDIVIDUAL CARTON (F444E)	
*	4-966-659-01	INDIVIDUAL CARTON (F244E)	
		********************	
		HARDWARE LIST	
		********************	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-682-547-09	SCREW +BVTT 3X6 (S)	
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	

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9-959-509-11

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

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